

Air Traffic Management Cost Assessment Tool, Phase I

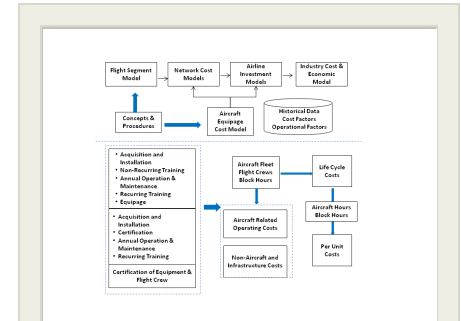
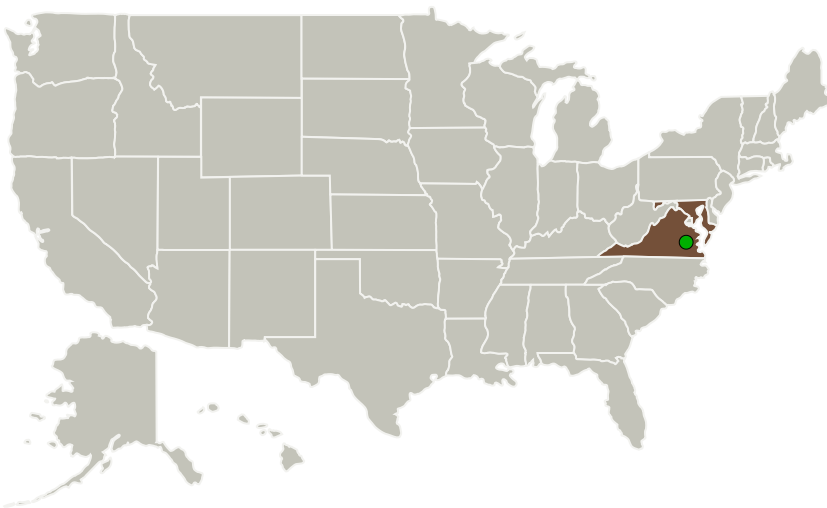
Completed Technology Project (2014 - 2014)



Project Introduction

The Robust Analytics air traffic management cost assessment tool provides the comprehensive capability to analyze the impacts of NASA Airspace Systems Program (ASP) air traffic management (ATM) research from individual flight trajectories through airline network operations and airline investments in equipment and training. Our model generates cost-benefit estimates for concept and procedure alternatives for individual airlines. The model also estimates a variety of impacts on industry, including input utilization and productivity, throughput, air transportation industry costs and fares, and broader economic effects such as employment and benefits to other industries. Existing cost models are typically limited to simple flight cost factors, with occasional added detail on fuel burn and flying time. Assessment of deployment times, the feasibility of obtaining the assumed benefits, and cost risk are typically ignored although always a constant concern of airlines. Our model suite overcomes these deficiencies by providing greater fidelity in the cost analysis of flight segments, explicit estimation of training and certification cost, and realistic treatment of deployment time and risk. Our cost analysis is performed using airline-specific data, enabling more realistic assessment of airline investment decisions and identification of disparate effects and willingness to invest among airlines. Robust Analytics expect to leverage the current body of knowledge by our partner Sabre Airline Solutions and two U.S. airlines to provide input and validate the model. An important use of the proposed model for the airline industry is that potentially this tool could help them make decisions in real time to improve their decision making during irregular operations and during severe weather events.

Primary U.S. Work Locations and Key Partners



Air Traffic Management Cost Assessment Tool Project Image

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Organizations Performing Work	Role	Type	Location
Robust Analytics	Lead Organization	Industry Women-Owned Small Business (WOSB)	Crofton, Maryland
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

Primary U.S. Work Locations

Maryland	Virginia
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Project Transitions

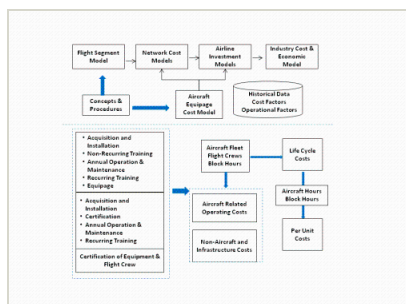
▶ **June 2014:** Project Start

✓ **December 2014:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/140501>)

Images



Project Image

Air Traffic Management Cost Assessment Tool Project Image
(<https://techport.nasa.gov/image/131448>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Robust Analytics

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

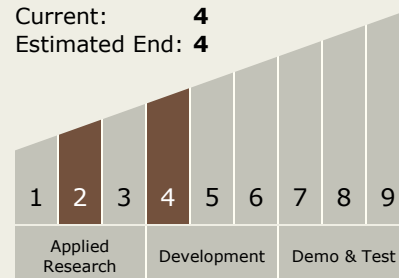
Carlos Torrez

Principal Investigator:

Peter F Kostiuk

Technology Maturity (TRL)

Start: 2
Current: 4
Estimated End: 4



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Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
 - └ TX16.3 Traffic Management Concepts

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System